

CLAIMS

We claim:

1. In a computer network, a method for predicting an optimum transmission frame length, comprising:
 - assessing transmission channel quality in said computer network;
 - calculating an optimum length for said transmission frame;
 - adjusting the length of said transmission frame;
 - transmitting said transmission frame of said adjusted length; and
 - assessing the quality of said transmission of said transmission frame.
2. A method as described in Claim 1 wherein said computer network is implemented as a wireless Ethernet.
3. A method as described in Claim 1 wherein said assessing of said transmission channel quality is achieved by measuring the bit error rate of said transmission channel.

4. A method as described in Claim 3 wherein said measuring said bit error rate comprises measuring said bit error rate of a previous transmission.
5. A method as described in Claim 1 wherein said calculating of said optimum length for said transmission frame is accomplished in a dedicated transmitting device.
6. A method as described in Claim 1 wherein said calculating of said optimum length for said transmission frame is accomplished in a computer.
7. The method described in Claim 1 wherein said assessing the quality of transmission is accomplished by measuring the bit error rate of said transmission.
8. A system for optimizing transmission frame size in a network, comprising:
- a network comprising one or more computers and one or more wireless communication devices;
 - wireless communication communicatively connecting said computers and said wireless communication devices in said network wherein said wireless communication transmits data using data transmission frames; and,

a transmission device enabled to adjust the length of said transmission frames based on a parameter.

9. The system described in Claim 8 wherein said network is implemented as a wireless Ethernet.

10. The system described in Claim 8 wherein said transmission device adjusts said length of said transmission frames to a predicted optimum frame length.

11. The system described in Claim 8 wherein an element of said network of is enabled to assess the bit error rate of transmission in said wireless communication.

12. The system described in Claim 8 wherein an element of said network of is enabled to assess the random processing noise in said wireless communication.

13. The system described in Claim 8, wherein said optimum frame length is predicted by use of a Kalman filter.

14. The system described in Claim 13 wherein said Kalman filter employs said random processing noise and said bit error rate in said predicting of said optimum frame length.

15. A data transmission frame for network communication, comprising:

a header section comprising one or more fields of header data;

a data field sequentially coupled with said header section and having a length capable of adjustment; and

an error checking field sequentially coupled with said data field and said header section, wherein said data field is adjusted to an optimum length for transmission.

16. A data transmission frame as described in Claim 15 wherein said data transmission frame is an Ethernet standard data transmission frame.

17. A data transmission frame as described in Claim 15 wherein said data field is adjusted said optimum length for transmission by a prediction of said optimum length.

18. A data transmission frame as described in Claim 17 wherein said prediction of said optimum length for transmission is calculated by a Kalman filter.

19. A data transmission frame as described in Claim 17 wherein said prediction of said optimum length for transmission is calculated by reference to transmission bit error rate.

20. A data transmission frame as described in Claim 17 wherein said prediction of said optimum length for transmission is calculated by reference to random processing noise.

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